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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,573	07/19/2005	Takashi Fukutomi	OGW-0378	6961
24978	7590	05/02/2008		
GREER, BURNS & CRAIN 300 S WACKER DR 25TH FLOOR CHICAGO, IL 60606			EXAMINER FISCHER, JUSTIN R	
			ART UNIT 1791	PAPER NUMBER
			MAIL DATE 05/02/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/542,573	Applicant(s) FUKUTOMI ET AL.	
	Examiner Justin R. Fischer	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kageyama (JP 52072742, of record) and further in view of Takiguchi (JP 54027105, of record).

Kageyama is directed to a composition comprising less than 40 phr of a liquid isoprene based on 100 phr of a solid rubber (rubber latex before being solidified) and having an extremely high tensile strength and elongation at break. The reference further teaches that the composition can be used as a general purpose rubber or additional applications, such as reclaimed tires, repair rubbers, etc. One of ordinary skill in the art at the time of the invention would have found it obvious to use such a composition on the inner surface of a tire since it is described in a similar repair process and similar compositions having high elongations at break are recognized as being used on the inner surface of a tire as a puncture preventing layer/film, as shown for example by Takiguchi (Abstract). As such, one of ordinary skill in the art at the time of the invention would have found it obvious to use the composition of Kageyama on the inner surface of a tire. It is additionally noted that the end point of Kageyama (40 phr of liquid isoprene) represents an express embodiment that falls within applicant's range).

With respect to the breaking elongation and tensile strength, the composition of Kageyama is expressly described as having a high breaking elongation and a high tensile strength- one of ordinary skill in the art at the time of the invention would have been able to appropriately select the desired mechanical properties as a function of the specific tire and the intended use of said tire. Furthermore, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed mechanical properties (all examples having properties in accordance to claimed invention).

Lastly, regarding claim 1, such puncture preventing layers conventionally have a thickness below 1.0 mm. Additionally, the thickness of the puncture preventing layer is a function of the specific tire being manufactured and the intended use of said tire. Applicant has not provided a conclusive showing of unexpected results to establish a criticality for a thickness below 1.0 mm.

With respect to claim 4, mold release agents are commonly used in tire manufacturing processes in order to eliminate any sticking between the bladder and the inner surface of the tire. While it is desired to remove such a release agent, some amounts of release agent do remain on the inner surface of the tire and applicant has not provided a limitation regarding the dimensions of the release agent or the makeup of the release agent. It is emphasized that the claim only requires the presence of a mold release agent.

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kageyama and Takiguchi as applied in claim 1 above and further in view of Farber (US 3,981,342, of record).

While Kageyama is silent with respect to the molecular weight of the liquid isoprene, the claimed range is consistent with the molecular weight of liquid rubbers used in similar sealant/puncture preventing layers, as shown for example by Farber (Column 3, Lines 28-32). As such, one of ordinary skill in the art at the time of the invention would have found it obvious to use a liquid isoprene having a molecular weight between 20,000 and 40,000. Lastly, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed molecular weights.

4. Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kageyama and Takiguchi as applied in claim 1 above and further in view of Miyasato (JP 72018238, of record).

As detailed above, Kageyama in view of Takiguchi substantially teaches the claimed tire construction including a puncture preventing film on the inner surface of said tire. The references, though, fail to disclose the specific application means of the claimed invention (pouring composition and drying during rotation). Miyasato, on the other hand, discloses a method of applying a composition to the inner surface of the tire comprising pouring said composition into a tire and rotating said tire to uniformly disperse said composition over the inner surface of the tire and form a film (Abstract). Thus, the claimed application technique represents a known method of applying

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compositions to the inner surface of tires- one of ordinary skill in the art at the time of the invention would have found it obvious to use any known application technique absent a conclusive showing of unexpected results.

With respect to claim 8, mold release agents are commonly used in tire manufacturing processes in order to eliminate any sticking between the bladder and the inner surface of the tire. While it is desired to remove such a release agent, some amounts of release agent do remain on the inner surface of the tire and applicant has not provided a limitation regarding the dimensions of the release agent or the makeup of the release agent. It is emphasized that the claim only requires the presence of a mold release agent.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kageyama, Takiguchi, and Miyasato as applied in claim 6 above and further in view of Farber.

While Kageyama is silent with respect to the molecular weight of the liquid isoprene, the claimed range is consistent with the molecular weight of liquid rubbers used in similar sealant/puncture preventing layers, as shown for example by Farber (Column 3, Lines 28-32). As such, one of ordinary skill in the art at the time of the invention would have found it obvious to use a liquid isoprene having a molecular weight between 20,000 and 40,000. Lastly, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed molecular weights.

Response to Arguments

6. Applicant's arguments filed April 7, 2008 have been fully considered but they are not persuasive.

Applicant argues that Kageyama contains no suggestion of making use of a latex. However, as detailed above, Kageyama is directed to a composition comprising less than 40 phr of a liquid isoprene based on 100 phr of a solid rubber (rubber latex before being solidified) and having an extremely high tensile strength and elongation at break. It is unclear how this layer is different from the "latex dry thin film" of the claimed invention.

Applicant further contends that Table 2 provides a showing of unexpected results for the claimed thickness. The examiner respectfully disagrees. First, any comparison with the Conventional Example is not persuasive since it contains a sealant not formed with liquid isoprene latex and thus does not constitute the closest prior art of record (Kageyama). Second, while Comparative Examples 1-3 comprise a rubber thin like film, the respective compositions are each formed with a thickness in accordance to the claimed invention and thus, necessarily fail to provide a conclusive showing of unexpected results for a thickness between 0.1 and 1.0 mm. With further respect to Comparative Examples 1-3, they do not contain liquid isoprene within the claimed range between 20 and 50 weight percent. A more persuasive showing of unexpected results (for the claimed thickness) might be a comparison of a film satisfying the claimed amounts (e.g. 40 weight percent of liquid isoprene like Kageyama) and having a thickness of 1 mm and greater than 1 mm.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Justin Fischer
/Justin R Fischer/
Primary Examiner, Art Unit 1791